

# CIO

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**This is CIO innovation on the edge.** 30

BY KIM S. NASH

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# Enable flexible workstyles with **Microsoft Desktop Virtualization Technologies**

One-stop shop for designing the right solutions for your business

**IT is increasingly turning to desktop virtualization** to provide users with seamless, consistent, secure on-demand access to their applications and Windows, no matter where the users are or what device they're using.

Increasingly diverse user expectations require IT to effectively manage the experience, applications and Windows environment to the individual's needs—a one-size-fits-all solution won't do the job. Many new client technologies have emerged to help address these needs, but each vendor has their own infrastructure and interface, which can drive up cost and complexity.

Microsoft provides a one-stop shop where customers can design the right solution for their business from the full spectrum of Microsoft Desktop Virtualization solutions. These solutions deliver virtualization through a more comprehensive platform that allows users to access Windows and any application virtually anywhere, while enabling them to change the device they are using and still keep their personalized experience. They also enable IT to give employees the flexibility to work anywhere, while simplifying compliance and management through a centralized infrastructure.

## » Change the device, keep your experience

**Many organizations** are grappling with how to provide their users a consistent Windows experience as workers hop from one device to another. Recently, Microsoft introduced User Experience Virtualization (UE-V), an enterprise-scale user state virtualization solution that helps

keep users' settings consistent between devices. It allows them to change their device without having to reconfigure applications each time they log in to Windows 7 or Windows 8.

"Regardless if it is a rich desktop or a hosted VDI desktop, a traditional application or a virtual application, UE-V enables a personal, consistent Windows experience across devices, matching each person's unique work style for increased productivity anytime, anywhere," says Karri Alexion-Tiernan, Microsoft director of product marketing for desktop virtualization.

UE-V also works with Folder Redirection, which centralizes user folders on a server on the datacenter. Users can get both their personalized settings and data from any device. It is also designed to require very little infrastructure to use and deploy—it can integrate with the existing management tools of a company. The unique experience information for each user can be stored on an existing file share, so IT doesn't need to set up additional servers.

UE-V will be included at no additional cost in a future version of Microsoft Desktop Optimization Pack (MDOP), and the beta is available now as a download.

## » Virtually any application, anywhere

**At the same time** it unveiled UE-V, Microsoft also



revealed the beta of App-V 5.0, a new version of Microsoft Application Virtualization that provides “anywhere access” to applications that are dynamically available to users on any device without requiring application installs. Virtual applications are preserved whether users are online or offline and they don’t have to change the way they use an application just because it’s virtual.

With App-V 5.0, virtual applications work more than ever like traditionally installed applications. It also puts powerful management in the hands of IT by giving them the ability to manage applications from a web-based interface. “Microsoft is breaking down some of the inhibitors to application virtualization,” says Brett Waldman, an analyst with IDC. “It makes your applications work as if they are installed natively.”

App-V 5.0 provides IT the best of both worlds: the ability to provide isolation from other applications, reducing conflicts and time spent regression testing; and the flexibility to enable connected applications that require a high level of communication to enjoy full interaction. “App-V 5.0 is a significant release,” writes Forrester analyst David K. Johnson. “It will finally pop the cork out of the wide-scale adoption bottleneck. The application interaction mechanisms are a huge benefit.”<sup>1</sup>

Another option to virtualize applications is RemoteApp, powered by Remote Desktop Services (RDS) in Windows Server. With RemoteApp, IT can deliver server hosted applications seamlessly along side local applications. This way, IT can secure corporate data and manage applications centrally for users who are always connected or who require business compliance. Now with support for UE-V, RemoteApp ensures a common application experience whether the user is accessing remote or local applications.

## » Windows everywhere

**There are many options** for delivering Windows to your employees. Many organizations choose to run Windows natively on users’ devices; others may select to deliver desktops hosted within the datacenter, and often organizations combine these options. Microsoft Desktop Virtualization helps enterprise IT to design optimal solutions in the way that best meets business needs. If you have business requirements where you need to host the desktops in the datacenter, consider using the capabilities delivered by Microsoft Virtual Desktop Infrastructure

(VDI) powered by Windows Server.

Microsoft’s VDI leverages technology in Windows Server to provide a single platform which delivers and hosts any type of virtual desktop, whether session or virtual machine (VM) based, giving IT the flexibility to deploy the right type of VDI desktop for their users. RemoteFX in Windows Server provides a consistent user experience, regardless of what type of virtual desktop is being accessed or where the users are accessing their desktops from.

If you need to virtualize Windows and run it locally on the hardware, such as in the case of developing or testing an application, new innovations in Windows 8 help make this more robust than ever. By leveraging the power of Windows Server Hyper-V, Windows 8 moves to a new level in local virtualization as Microsoft is introducing Client Hyper-V. Currently available in the Windows 8 Consumer Preview, Client Hyper-V allows developers and IT Pros to run multiple operating systems within VMs side by side on their Windows 8 PCs, thereby maximizing hardware investments for their respective organizations.

## Unifying Operations

Microsoft Desktop Virtualization unifies IT operations onto a single and centralized infrastructure across both physical and virtual assets. Working with System Center management, it automatically detects device configurations to deliver the most appropriate services for each user. The new IT consists of a hybrid environment which often includes traditional PC computing and virtualization. System Center can address both, eliminating complexity and keeping operations simple for your staff.

<sup>1</sup> <http://windowsteamblog.com/windows/b/business/archive/2012/04/04/introducing-ue-v-and-app-v-5-0.aspx>

**Microsoft Desktop Virtualization offers a one-stop-shop suite of options that empowers IT to build the right infrastructure that meets the specific needs of users and the enterprise. For more information, please go to [www.microsoft.com/DV](http://www.microsoft.com/DV) and [www.microsoft.com/springboard](http://www.microsoft.com/springboard).**

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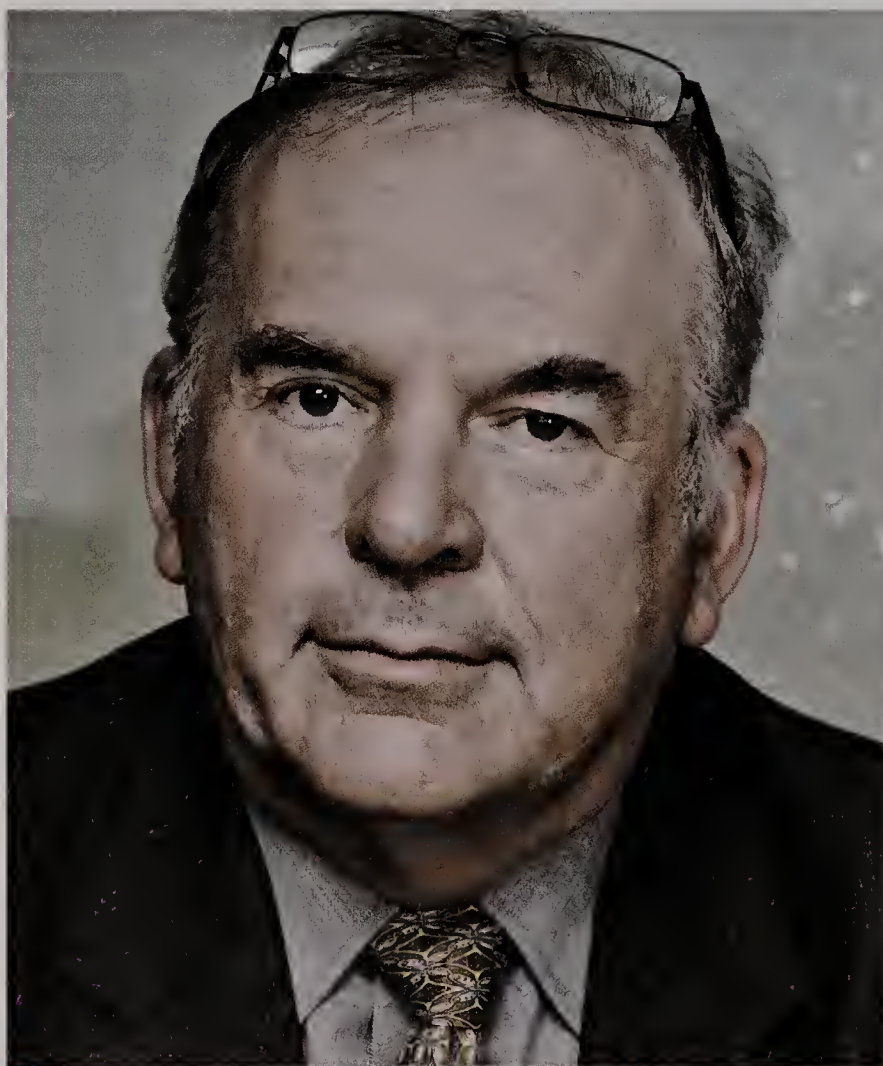


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# Big Data, Big Brother, Big Bucks 30

**COVER STORY** Equifax is creating new analytics products from 800 billion business and consumer records worldwide. This is CIO innovation on the edge.

BY KIM S. NASH



CIO **Dave Webb** is taking Equifax way beyond its roots as a credit bureau and finding new opportunities to exploit the company's vast stores of data about consumers and businesses.



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**Grow**

INNOVATION & BUSINESS VALUE

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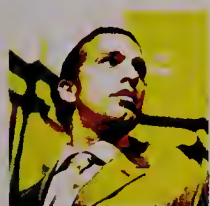
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FROM THE  
EDITOR IN CHIEF

# start

## CHATTER

### Testing Our Limits

I was talking recently with the CIO of a midsize bank about the potential of mobile apps and social media to attract college kids as new customers. The bank had conducted a focus group of twentysomethings to explore what they really wanted. "They love free stuff. They'll do anything for a \$5 Starbucks card," said this CIO, clearly a bit surprised by how easy it was to capture these customers.

He then imagined a twentysomething customer sitting by the shore, eating cereal, watching the sun rise and tweeting about it. "We have the technology to know who that is, where they're at, and now they're telling us what they're doing," he continued. "But what do we do with that? Do we say: 'Hey, it's great you're enjoying yourself, but do you realize you might be paying too much for your student loan?' That's a little too invasive."

Well, maybe not.

As you'll realize while reading Senior Editor Kim S. Nash's riveting cover story ("Big Data. Big Brother. Big Bucks," Page 30), the whole concept of privacy is starting to seem a bit quaint these days. "We know more about you than you would care for us to know," says CIO Dave Webb of Equifax.

As one of three major U.S. credit bureaus (TransUnion and Experian being its rivals), Equifax has data on 500 million consumers and 81 million businesses globally—a staggering collection of more than 800 billion records to analyze, manipulate and combine in more inventive, revealing ways than you might imagine.

To research her story, Nash spent a day at Equifax's Atlanta headquarters, delving into the astonishing array of products and services the IT team there is crafting from those vast stores of data. The result is an impressive story of IT innovation and the power of decision analytics, with some startling revelations about where big data is heading.

"The majority of consumers have no clue about the breadth of the information about them, where their information is residing and who has access to it," notes one expert in our story. "It's a shifting landscape," adds analyst Elizabeth Mason of Outsell, an IT market researcher "We don't know yet what the public's tolerance is for companies mining all of this data."

I wonder if that imaginary college kid, munching cereal and tweeting by the seashore, would worry about all this. I suspect not. Most of us are only dimly aware of how much data can be assembled about every aspect of our lives. Are there limits to our tolerance? Write in and let us know.

Maryfran Johnson, Editor in Chief, *CIO* Magazine & Events  
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### Pocket Guide to BYOD

Employees and executives are already bringing their own devices to the workplace, whether or not there's a bring-your-own-device (BYOD) policy, leaving CIOs between a rock and a hard place. Get an in-depth look at BYOD in this **downloadable digital edition of *CIO***. This guide will help you find the happy medium between **giving employees freedom** and **ensuring security**. It also includes ideas on **how to establish a policy** about who owns what, who pays for what, and who protects the data. [www.cio.com/article/705348](http://www.cio.com/article/705348)

### Q&A with Kaiser's CIO

John Gallant, chief content officer at *CIO's* parent company IDG Enterprise, talked with the **CIO of Kaiser Permanente**, Philip Fasano, who feels that Kaiser's bet on **electronic medical records** has paid off. It's given the organization "the information, technology and additional analytic support" to focus on people with chronic conditions and **improve their outcomes**, he says. Fasano explains this effort is supported by **social and mobile technologies**, including a **mobile app** that connects patients with their records, lab results and physicians. [www.cio.com/article/705382](http://www.cio.com/article/705382)

### Your Social Media Voice

Contributor Curt Finch says it's inevitable that employees will engage in **conversations on social media** that relate to their companies. He stresses that it's important to **determine your corporate voice** on these social sites based on how you want to **brand your company**. It's also a good idea, he says, to allow employees to use their own names because it makes the **interactions feel more human**. [blogs.cio.com/node/17053](http://blogs.cio.com/node/17053)

Compiled by Editorial Assistant Lauren Brousell. Have a comment about a story in this issue? Go to [www.cio.com/issue/20120601](http://www.cio.com/issue/20120601) or write to [letters@cio.com](mailto:letters@cio.com).



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\*Substantiation: HP white paper, *Measuring the Business Value of Converged Infrastructure in the Data Center*, October 2011.  
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FROM THE **CEO**

## Wake-Up Call

**Dear CIO Community:** Your world has changed, and I'm not sure most of you have noticed the shifts that are putting you at risk of becoming irrelevant. Excuse the blunt wake-up call here, but when I meet CIOs, many of you tell me that your relevance and business value have never been higher. I don't believe your CEO would agree.

Given what our enterprises have been asked to do over the past few years, I know how well you have delivered on optimizing, standardizing and consolidating IT operations. Yet the game is changing. While saving money through IT efficiencies still counts, the main business focus is on increasing revenue and deepening customer engagement by getting the most out of IT.

When I talk to business executives such as CEOs, CMOs, chief research officers, procurement heads and board members, they say IT is a fine business enabler but that the real innovation is happening in marketing, sales and R&D. Their challenge to me is this: "How can we make 'CIO' synonymous with 'innovation'?"

If you doubt how much our world has changed, just look at this chart (my own creation) and tell me that something momentous isn't happening:

| IT Organization    | Yesterday                   | Today                            |
|--------------------|-----------------------------|----------------------------------|
| Focus              | Cost                        | Growth                           |
| Key metrics        | Efficiency                  | Speed and customer satisfaction  |
| Delivery goals     | On-time, on-budget          | On-value                         |
| Architecture       | Systems of record           | Systems of engagement            |
| Architecture focus | Core                        | Edge                             |
| Technology focus   | Network, storage, computing | Cloud, social, mobile            |
| Development goals  | User interface              | User engagement                  |
| CIO                | Chief information officer   | Chief innovation officer         |
| Key partner        | CFO                         | CMO                              |
| IT focus           | Technology systems          | Processes, function capabilities |

Now is the time to step up and prove you can drive innovation and move at the speed of business. It's a magnificent time to be in the CIO's seat, given technology's ability to solve many of our greatest business challenges. What are you doing to make sure the "I" in your title stands for innovation?

I'd enjoy hearing from you, so please drop me a line at the email address below or contact me on Twitter ([twitter.com/mfriedenberg](https://twitter.com/mfriedenberg)).

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## Collaboration Goes Mobile

Companies are extending their unified communications systems to smartphones and tablets, but it isn't cheap **BY LAUREN BROUSELL**

**T**he huge influx of mobile devices into the enterprise is getting CIOs fired up to invest more in unified communications (UC) and collaboration systems, according to a survey by IDG Enterprise, CIO's parent company.

The survey of 1,105 respondents was only open to IT leaders who have already deployed UC systems or plan to do so within the next three years. UC technologies include IP telephony, email, instant messaging, video conferencing and enterprise social software. Now the catalyst for UC investments is extending those desktop capabilities to mobile devices such as smartphones and tablets, according to 67 percent of the survey respondents.

Chris Zegers, CIO of law firm Lowenstein Sandler, says he is looking to switch from Cisco Communicator to Microsoft Lync because he thinks it will be easier to use on mobile devices.

"It's pretty simple," Zegers says. "I want to have an IM client that works well on every possible device that my attorneys have."

Zegers says he's hoping the shift to IM will reduce the

use of email, boosting productivity. Sixty-one percent of respondents said their top reason for investing in UC is to boost employee productivity; the second-most-popular reason was increased flexibility for employees (42 percent).

Jerry Johnson, CIO of Pacific Northwest National Laboratory, agrees with those sentiments. He says the organization's Lync system makes it very easy to set up a meeting or find a person's location, for example.

UC deployments often cost at least \$250,000, and can top \$1 million at large companies. Asked in the survey about the biggest obstacles to UC investments, respondents cited the high cost (54 percent), followed by systems integration headaches (47 percent) and lack of in-house expertise (33 percent).

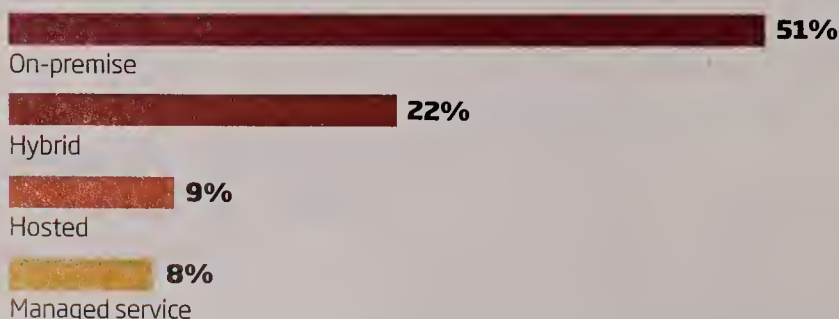
Johnson says getting vendor support and training his own staff make the task of implementing a UC system a challenge. "[The technologies] are not particularly easy to deploy; they take a bit of tweaking," he says.

Contact Editorial Assistant Lauren Brousell at [lbrousell@cio.com](mailto:lbrousell@cio.com). Follow her on Twitter: [twitter.com/lbrousell](https://twitter.com/lbrousell).

## No Big Shift to the Cloud

Most companies are deploying unified communications (UC) on-premises or as a hybrid of on-premise and hosted software

**How are you deploying UC and collaboration tools?**



## Decision Criteria

CIOs care about usability and security

**What factors will help you choose a unified communications vendor?**

- 1—Ease of use
- 2—Security
- 3—Ease of management  
Vendor support
- 4—Total cost of ownership  
Ease of integration



THE BUSINESS  
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**2 Get top billing:** A paid account prioritizes your profile in the list of job applicants a hiring manager sees, which can help you stand out.

**3 Send InMails:** Only two of the three kinds of paid LinkedIn accounts offer this feature, which lets you directly message anyone on LinkedIn without connecting first.

—Kristin Burnham



For more tips, see: [www.cio.com/article/704945](http://www.cio.com/article/704945)



## WORTH READING

### BOOK **The Art of the Sale** By Philip Delves Broughton

More Americans work in sales than in any other job, and yet most of us know little about selling. The author, a journalist and Harvard Business School grad, shares extensive research into this vital business function and explains why being ignorant about it has enormous consequences for the economy. *Penguin Press, \$27.95*



## quick FIX



### I'm new to the CIO role. How do I to make meetings more productive?

**ALWAYS** remember that meetings should work in service of an organization's agility and so should be similarly agile. Any significant shift in information and communications technology is a change-management challenge that requires good communication, coordination and collaboration. Meetings are the key to that. Prepare a mix of meeting types, organized on a schedule that clearly communicates what happens at which meetings and who attends. What's most important is that your agenda clearly states a meeting's goal and sets a time frame you can stick to.

**SOMETIMES** meetings can just be huddles. Consider a daily roundup of senior stakeholders. Yes, that's right, every single day. It can have a massive impact on reducing chaos, confusion and conflict. Many executives assume they can't afford to take the time every day but, after trying it for a while, realize they can't afford not to take the time. Morning meetings can be massive time savers and are best used to survey the status of projects, staff and operations.

**NEVER** underestimate the power of a good meeting. Well-designed, well-facilitated meetings can generate good participation so that people feel heard, and can dig into tough issues so that people feel hopeful. Good meetings can also improve trust, teamwork and agility. By being consistently organized in your approach to meetings, you will find that facilitating them becomes easy and their outcomes improve.

Mike Richardson is president of Sherpa Alliance, a management support business. He is also a chair of Vistage International, a global collaborative of CEOs.



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Matson Navigation Co., Inc.  
Mazda North American Operations  
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PACCAR, Inc.  
Pfizer, Inc.  
PNC Financial Services  
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Quest Diagnostics

Raytheon Co.  
Restaurant Technologies, Inc.  
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## Viral Video Power

Your CMO needs your help to make online marketing campaigns succeed **BY AARON LESTER**

**When a video marketing** campaign goes viral, we all jump for joy. Right? You may have reason to cheer, but only if you've done due diligence, something easier said than done.

Online video, social media and mobile computing have fundamentally changed the way companies interact with their customers. To harness the value of these innovations, CIOs and chief marketing officers must attain a new level of collaboration.

If the goal of a viral video campaign, for example, is to attract a surge of attention, traffic and even revenue, then the CIO and CMO both need to be in on the planning process. There would be no greater failure than to be ill-prepared when your video goes viral, says Jason Ricci, CIO of the Energy Foundation. But many times "there's just not enough coordination between the CIO and the marketing side," he says.

Take the success, back in March, of the *Kony 2012* video, which highlights the atrocities of a Ugandan warlord. The video got over 100 million views in just six days—faster than any other ▶▶▶

.....**45%** Bankers who say mobile banking will be critical to serving small and midsize customers. Fundtech  
.....**82%** Employees who say they have more trust in a CEO if he or she is engaged in social media. BRANDfog



►► **Viral marketing** Continued from Page 13

video to hit that mark, according to Visible Measures, a social video analytics company.

Such social outreach work pushes both IT and marketing out of their comfort zones and forces them to adopt a more flexible approach, says analyst Nigel Fenwick of Forrester Research. But often both departments hesitate to reach out to each other because they think they're incompatible.

"IT thinks marketing is an art, not a science," Fenwick says. And IT is often accused of using technobabble. "IT staff need to learn the language of marketing in order to be taken seriously by marketers."

Another challenge CMOs and CIOs face is that IT tends to work on a much longer schedule. Marketing works in campaign cycles, which have become faster and faster, adapting to the pace of social media. IT is used to moving more cautiously, fearing a systemwide failure.

In the age of the empowered consumer, companies get almost constant feedback from consumers. But the real value of this, says Fenwick, "is being able to connect the dots and drive value for the business."

The *Kony 2012* video spread across social networks at an unprecedented rate. The #StopKony hashtag, for example, was tweeted 12,000 times every ten minutes at the height of its popularity, according to SocialFlow, a social media optimization and analytics firm. That's a lot of data to mine for relevant information.

"It's all about engagement for me," says Ricci of the Energy Foundation. But if your campaign were as popular as *Kony 2012*, would you have an idea of what your audience is saying about you, and have the flexibility to tweak your strategy?

Along with pageviews and other traditional metrics, Ricci recommends tracking how many viewers watched a video from beginning to end. He also says analysts should monitor when viewers click away from the video. Is there something specific that's driving viewers away?

"CIOs can't be involved with everything," says Ricci. "But they're the ones who connect the [data] with the business."

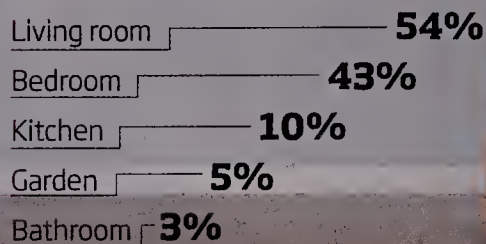
Aaron Lester is a freelance writer based in Massachusetts.

# crunch

## Where Do You Click 'Buy'?

Most consumers do their online shopping on a home PC, but some do it elsewhere in the house with mobile devices.

**A sampling of places where consumers shop online when at home:**



SOURCE: WORLDPAY SURVEY OF 19,000 ONLINE SHOPPERS IN 15 COUNTRIES, MAR. 2012



## Cloud Service Gets Personal

Intel researchers hope to combine sensors and cloud computing to deliver hyper-local information about air quality and the weather within meters of where a smartphone user is standing.

The plan is to populate neighborhoods with sensors that give an accurate picture of local pollution and weather, says Terrance O'Shea, a senior principal engineer at Intel Research. The system would gather environmental data from the sensors, triangulate a user's exact position, and deliver accurate information for that location using a personalized cloud service.

Intel has made a weather and pollution sensor chip designed to be easily installed in local stores, bars and pizza parlors, O'Shea says. For example, the pollution mobile toolkit includes carbon monoxide, nitrogen oxide and ozone sensors that measure air quality to see if an area is safe. Such information is typically helpful for people like asthma patients.

Stores carrying sensors can make money by delivering advertisements through cloud services. For example, a user requesting weather information may get an advertisement for the closest store, O'Shea says.

—Agam Shah

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# The Games Are Just Beginning

Companies are starting to use the motivational techniques of video games to create more engaging business applications **BY MICHAEL HUGOS**

**G**amification—it's the awkward word that describes the practice of applying game-design thinking to non-game applications so people find them more interesting and engaging.

Today, companies are starting to use common video-game techniques such as points, badges and leader boards to make their websites more interactive and to reward people for their contributions. But this is only the start of the inevitable merging of games and business.

With all the serious stuff going on in the world today, why are people talking about games at work and why are they doing it now? The answer comes down to two things: technology and demographics.

The widespread use of social media such as Facebook and Twitter, and the rapidly expanding use of smartphones and tablets have created new ways to reach and interact with customers.

Meanwhile, the number of people who play video games is growing quickly—even among folks who are in their 40s and beyond—and playing games has become more social (think of FarmVille on Facebook). Conditions are ripe for extending game techniques beyond their traditional boundaries and employing them in other online activities.

Brand-name companies are experimenting with gamification as you read this. Samsung created Samsung Nation—the electronics industry's "first gamified corporate website"—where loyal customers engage and compete for badges, points and other rewards as they watch videos, comment on articles or review products.

And Salesforce.com adopted an application called Nitro that lets sales managers set up motivational campaigns and competitions to reward sales teams for reaching certain goals.

Market research firm Gartner says that 50 percent of companies will embrace gamification by 2015.

Gamification software companies such as Achievers,

Badgeville, Bunchball, Gamify and Igloo claim that companies can reap significant benefits, such as increasing product awareness, sales and customer satisfaction.

It works because gamification techniques create a feedback system that responds to people's actions and encourages them to do more. When people perform a desired action, they're awarded points or badges.

Yes, gamification at the moment may seem kind of trivial. Sometimes you have to wonder who has time for it. However, don't confuse these humble beginnings with the revolutionary change they are bringing about.

Imagine the business benefits that could come from adding fun, engaging and rewarding experiences to software applications used by customers and employees.

The apps would leverage the capabilities of smartphones, tablets, cloud computing and social media. And they can be built on top of systems that companies already use for work, such as ERP, CRM, supply chain and HR systems.

Ultimately, "the highest use of games will be to redesign work so that it is more like a game and to allow work to be conducted within games," according to *Total Engagement*, a book by Stanford business professor Byron Reeves and venture capitalist J. Leighton Read. They say work will be "hopelessly confused with play," resulting in benefits for both the players and the businesses involved.

As companies strive to find their way in this confusing real-time economy, the good news is this: Video games already provide a rapidly increasing body of field-tested best practices for using technology to create feedback systems to attract and engage people.

Michael Hugos, a former CIO, is principal at the Center for Systems Innovation. His latest book, *Serious Games: The Future of Work*, will be available next month.

**Imagine the business benefits of adding fun and rewarding experiences to apps used by customers and employees.**



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# Android On Call

Why Palomar Pomerado Health built its own Android app for accessing real-time patient information **BY SHANE O'NEILL**

**OPEN SOURCE** Apple's iOS not the only OS catching the medical field's attention. Take Palomar Pomerado Health (PPH) in San Diego, which improved its workflow and culture by developing its own Android healthcare platform and app.

In 2010, PPH, the largest hospital district in California, kicked off its project to build a mobile platform called Medical Information Anytime Anywhere. The centerpiece of the new software is a specialized app that pulls in data from the hospital's legacy system to give physicians all the information they need about a patient in real time.

"Android allowed us to use and extend the platform in our own way," says PPH's CIO Orlando Portale, who ran the creation process much like a startup. Recasting outdated legacy systems as a mobile app is something you have to do yourself, he says,

because a vendor could take too long.

"Developing your own app gives you a competitive advantage," he says. "And it will make your user community much happier. We sandboxed it outside IT, got funding for it, and used contract resources," he says, adding that PPH plans to sell it as an independent product to other healthcare facilities.

The app works with RFID wristbands given to patients and allows doctors who log in to receive a list of patients currently in the hospital, including their whereabouts. Doctors can then access up-to-date patient information such as allergies, active medications, lab info and recent vital signs. They can even view X-rays.

While the app runs on any Android device, staff primarily use Cisco Cius tablets that incorporate Cisco's unified communications tools, which are necessary to use the app's

Care Team feature. This enables all physicians associated with a patient to communicate about treatment options by chat, video or phone.

"You could have a specialist and the primary care physician looking over the same patient information and talking via a video call," says Portale. Tablets can also be docked at patients' bedsides so doctors can video conference with them.

Portale acknowledges Android's mixed security reputation but says he's confident in the apps' compliance with standards. His staff incorporated the same user authentication and audit requirements that are used in the hospital's traditional systems. Users are required to use a VPN to log in to the PPH network and data is streamed in, not stored.

Contact CIO.com's Assistant Managing Editor Shane O'Neill at [soneill@cxo.com](mailto:soneill@cxo.com).

## Mobile Experts Disagree on Who Should Protect Privacy

**PRIVACY** App users need more insight into how their personal information is used, but experts discussing privacy at the recent State of the Mobile Net conference disagree over who's responsible for providing it. Todd Moore, founder of app vendor TMSoft, said Apple and Google are best positioned to enforce privacy controls and set rules limiting the amount of data apps can collect. But Ashkan Soltani, an independent security and privacy researcher, said app developers need to police themselves and embrace privacy standards. "We can try to exercise some maturity," Soltani says. Moore cautions policy makers against self-governance: "There will always be developers who seek to exploit privacy."

—Grant Gross

## NFC payments will go mainstream

**SURVEY** More than two-thirds of technology insiders believe paying with smartphones will overtake cash and credit card payments by 2020, according to a survey by the Pew Internet and American Life Project and Elon University.

Aaron Smith, the co-author of the study, says that in longer interviews, participants shared nuanced views on how long full adoption will take. But there's little doubt that near-field communications (NFC) will gain prominence in mobile commerce, says Chris Silva, an Altimeter Group analyst.

"The race is on and the field is getting thicker in terms of the number of people who want their chunk of the transaction," says Silva, referring to the cut that financial processors take from each transaction. Smith says a number of respondents thought established financial services businesses would resist NFC for fear of losing market share.

—Cameron Scott



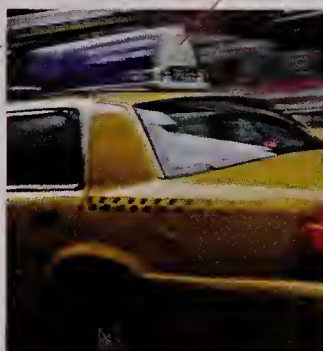
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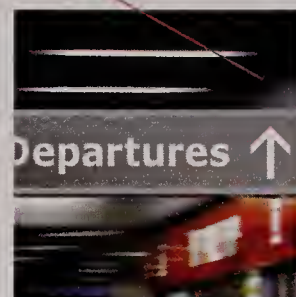
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## Button-Down BYOD

MasterCard's growing bring-your-own-device program proves it can be done securely **BY KIM S. NASH**

**More than a year** into its bring-your-own-device program, MasterCard Worldwide continuously assesses the security technology and policies that allow 30 percent of its employees worldwide to use their personal iPhones, iPads and Android devices at work.

"Security is a high priority for us," says Edgar Aguilar, group executive of infrastructure and operation services at the \$6.7 billion credit card company.

Employees can get work email on their devices and merge their personal and business contacts and calendars. "We are giving them access to their own information in a form factor they feel familiar with," Aguilar says. (The company issues BlackBerrys, which aren't part of the BYOD program.)

For participants in the BYOD program, MasterCard sets strict conditions of use.

Data stored on or transmitted to or from the device is encrypted. MasterCard also requires ▶▶▶



**Edgar Aguilar**, group executive of infrastructure and operation services at MasterCard Worldwide, prioritized security while expanding the organization's bring-your-own-device policy.





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►► **BYOD** Continued from Page 20

passwords to lock the smartphone or tablet or to get on the corporate network. "It's essentially a secure container," Aguilar says.

If the device is lost or stolen, MasterCard can wipe just the corporate information. "It's up to the users to make sure they protect their personal information."

### Best Practices

Janco Associates, an IT management consulting firm, says CIOs should consider reaching further into the home life of employees. A BYOD policy template it recently published stipulates that any personal device that synchronizes with a sanctioned BYOD machine must use antivirus software "deemed necessary" by the IT group. Also important: IT must install mobile virtual private network software on the device, or at least approve of the package the employee uses.

About 2,000 of MasterCard's 6,700 employees worldwide have signed up for BYOD so far, and that number is growing, Aguilar says. "We keep hiring new employees around the world and we see more requests for BYOD."

Aguilar's next step was allowing access to the corporate intranet on personal devices, a feature he enabled early last year. Whatever new applications it deploys, MasterCard, which does business nearly every country, wants to do it globally, not favoring any one country over another, he says. That means knowing how wildly different data privacy rules affect the use of personal smartphones and tablets.

MasterCard can simply tweak its policies for laptops, for example. But the difficulty with personal devices is being able to prove that the company complies with privacy regulations in the event of audits or lawsuits. MasterCard wants to have archiving and usage logs in place and tested before opening other applications to the BYOD program, Aguilar says.

Janco advises IT departments to store records of mobile device activity in a number of ways: based on files, individual users and groups of users, IP address, and material downloaded, uploaded and previewed. At MasterCard, an in-house attorney has been involved in the BYOD rollout from the planning stages. "They provide advice throughout the process, not at the tail end."

Contact Senior Editor Kim S. Nash at [knash@cio.com](mailto:knash@cio.com). Read her blog, Strategic CIO, at [blogs.cio.com/blog/strategic-cio](http://blogs.cio.com/blog/strategic-cio).

## Texas Supermarket Stocks Up on iPhones

BY TOM KANESHIGE

**F**ifty grocery-store general managers spread out across western Texas are getting shiny new iPhones—and presumably holsters, too.

The managers, who run some of the bigger United Supermarkets stores, will also be getting a killer app—called Mobile Manager Connect, from Vortex Connect—which will allow them to tap into a powerful workforce-management system from Kronos. They'll be able to view schedules, approve shift changes, clock workers in and out, and even fire off text messages to off-duty workers to fill holes.

"In the grand scheme of things, Manager Connect is just one of many utilities we'll use the device for," says K. David Crews, director of strategic projects at United Supermarkets, a family-owned retail grocery chain. "There's a long-term strategy."

**What they did:** With new smart iOS apps arriving daily on the iTunes App Store, iPhones in the enterprise are fast becoming the platform of the future. The goal for United Supermarkets was to make it easier for managers to communicate. After all, grocery-store managers have a mobile work life, roaming up and down aisles and checking in with cashiers.

Kronos's integration of Vortex Connect's mobile apps led United Supermarkets to test Mobile Manager Connect in a six-store pilot program. "Now they play together nicely, which allows a manager to access one system," Crews says.

The app eases a grocery-store manager's biggest headache: organizing a work schedule that involves up to 400 employees and changes with the sales forecast and the constant fluctuations in staffing, which are caused by factors such as turnover and sick days. Traditionally, a manager tracks down workers to take sudden shift openings by making phone calls, leaving voice mails and waiting for return calls.

**How it works:** With Mobile Manager Connect, a manager indicates a shift opening on their iPhone. The Kronos tool finds available clerks and automatically sends them requests via text, voice mail or email. Clerks can accept shift requests right on their own phones by sending a reply text message.

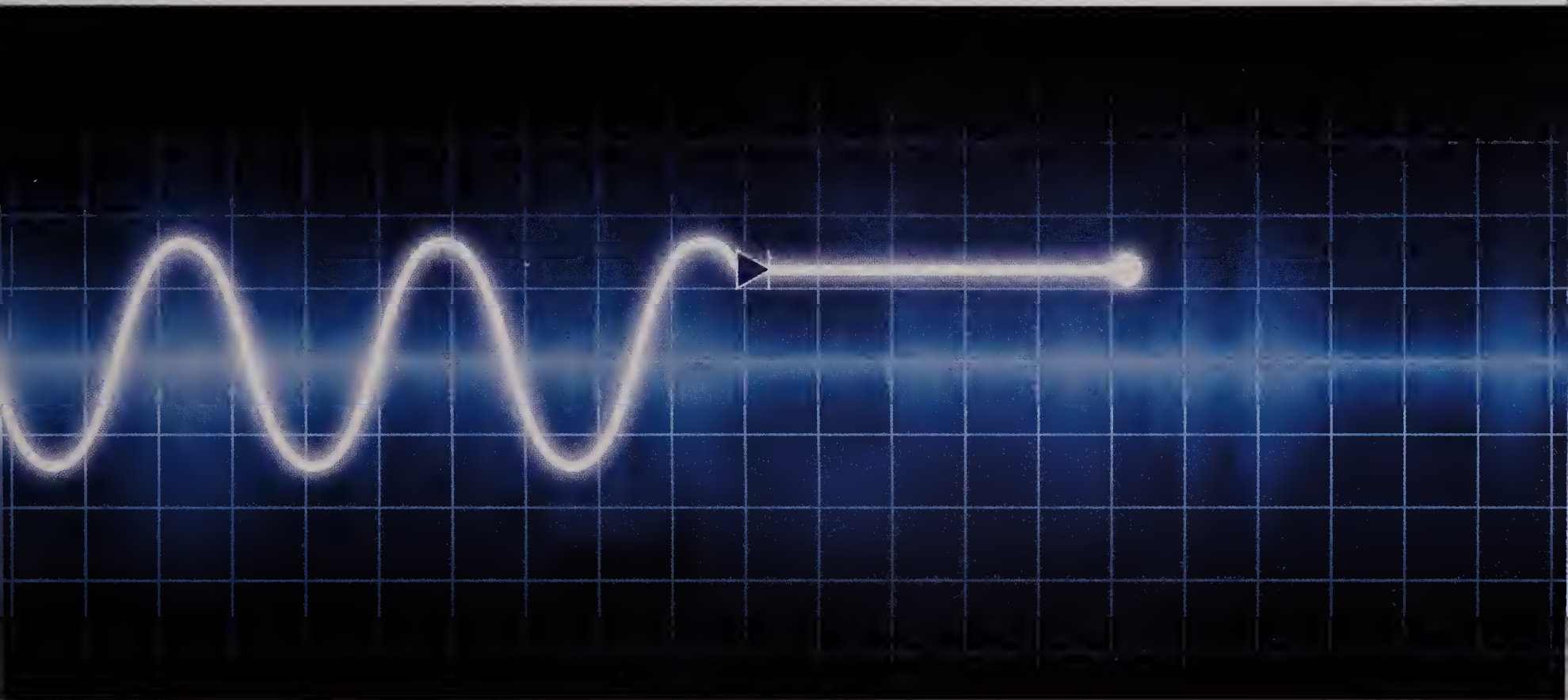
Other iOS apps are in the works, too. Crews says he's looking at areas such as business intelligence, social feedback and reporting. There might even be an app that lets workers see their schedules and allows them to accept or decline shifts.

The long-term plan is broad, Crews says, adding, "Generally speaking, grocery retail is towards the back of the technology curve. But we're a little bit ahead of the curve with how we are utilizing Vortex's mobility solution—and that's exciting."

Senior Editor Tom Kaneshige can be reached at [tkaneshige@cio.com](mailto:tkaneshige@cio.com). Follow him on Twitter: [twitter.com/kaneshige](http://twitter.com/kaneshige).



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## LEGAL AFFAIRS

# A Tug-of-War Over Data Breaches

Lawyers for IT service providers and customers are battling over who is liable for expensive security mishaps **BY STEPHANIE OVERBY**

**T**here is no shortage of contentious issues to grapple over when inking an IT outsourcing deal, but one in particular has providers and customers taking a hard line: liability for data breaches.

The reason: In today's regulatory climate, a data breach can mean financial penalties and notifying millions of customers. Last year, the Ponemon Institute pegged the average cost at \$214 per compromised record. "If you have a large customer base," says Chris Ford, chair of the global sourcing group at law firm Morrison and Foerster, "the price to comply could be very large."

So big U.S. providers like IBM Global Services, HP and Accenture moved aggressively to put a cap on their liability for data breaches. IBM took an especially hard line, Ford says, and "even walked away from huge deals. Customers were frankly a little stunned."

Lately, though, outsourcing customers have begun to fight back, seeking better liability and data security clauses in their contracts. Customers are "demanding specific data security requirements, such as specific firewall poli-

cies, encryption or limited network access [for provider employees]," says Shawn Helms, partner in the outsourcing practice of law firm K and L Gates.

"Customers are looking at this issue as hard as the service providers and saying, 'I'm handing my data over to you. You're in control of my data. If something goes wrong, you need to take responsibility,'" Ford says.

In response, the outsourcing providers began adding very detailed exhibits to their contracts outlining their security obligations. "If it's not listed, it's not [the provider's] obligation," Ford says. "It makes the likelihood of the customer recovering much lower."

Data breach liability "is the most contested provision in outsourcing contracts today," according to Ford, and it may only get worse with the advent of cloud computing.

"Today, this issue is a mess. Customers and providers are not getting closer on this issue, but further apart," Helms says. "As more data moves to the cloud, the allocation of risk is becoming more and more important."

Stephanie Overby is a freelance writer based in Massachusetts.

## Wrong Way to Implement Process Tools

IT governance frameworks such as Cobit and IT Infrastructure Library (ITIL) sometimes build much-needed operational rigor—but not always.

Compass, an IT benchmarking firm, recently analyzed 15 client engagements and found that the frameworks meant to improve IT efficiency can yield limited—and potentially negative—results.

Companies often turn these initiatives over to outsourcing vendors, who have a penchant for creating repeatable and standardized pro-

cesses for multiple clients, says Chris Pfauser, a principal at Compass. Unfortunately, most of these process-improvement efforts are implemented in isolation from the client's business, simply for the sake of certification or compliance, says Pfauser. As a result, the business is not engaged enough for the governance initiative to succeed.

"Clients will bring a service provider in and ask them to 'implement ITIL,' and then assume their job is done," Pfauser says. "[But] if the changes are imposed by a third party, there's little incentive for the client—and especially the business—to be compliant. It becomes a set of bothersome rules and procedures to follow with no apparent benefit."

Even worse, Pfauser says he's seen many cases where the initiative was limited to defining rules and guidelines. "This can lead to a hot potato culture that focuses on documenting activity, following the rules, and passing tasks down the line, rather than on getting things done," he says.

Without client buy-in, "the service provider ends up having to circumvent the process rules in order to get things done, resulting in duplication of effort and increased costs," Pfauser says.

Process improvement initiatives can work in an outsourced environment, he says, but the customer has to take the wheel.

—Stephanie Overby



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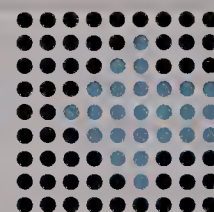
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# Social Business

Jive Software has a solid track record in enterprise social networking, but the party is getting crowded **BY JUAN CARLOS PEREZ**

## THE PITCH

Jive Software is a pioneer of enterprise social networking software, which adapts consumer social media functions for use in the workplace. For IT departments, Jive offers management and security features, such as enterprise directory integration, single sign-on and usage policies.

In addition to the usual Facebook-like features, Jive's Engage software lets organizations monitor external social media sites or create public online communities where they can interact with partners and customers. More recently, Jive has built versions of Engage tailored for specific functions, such as a social intranet or customer service.

Although the market has gotten crowded, Jive has a solid track record. "We have massive customers with tens of thousands and hundreds of thousands of employees around the world who have been using our software for years," says Tim Zonca, Jive's director of product marketing. For example, Alcatel-Lucent has more than 50,000 users on Jive.

## THE CATCH

Demand for enterprise social networking software is expected to balloon in the coming years, with the market expanding at a compound annual growth rate of 61 percent through 2016, according to Forrester Research. Thus, competition is fierce, and not limited to niche, pure-play vendors like Socialtext, NewsGator, Yammer and Telligent. Large collaboration vendors like Microsoft, IBM Lotus, and Cisco are adding social capabilities to their collaboration stacks. And companies like SAP and Salesforce.com are building native social functionality into their enterprise business applications.

Another challenge is poor implementation and ineffective use of the software by customers, which leads to low engagement and underuse,

according to a recent report by Altimeter Group.

Rob Koplowitz, a Forrester analyst, says that the next great accelerator of adoption of social networks will be integration with critical business processes and their underlying systems. "The social software vendor that wins the battle for the broadest partner ecosystem will have the advantage in the market," he says.

## THE SCORE

Intercontinental Exchange, which operates regulated exchanges for global commodity trading, has used Jive's product since the end of 2007. That's when, due to an acquisition spree, the company found itself with a lot of new employees in locations around the world.

"We needed to figure out a way to

## THE COMPANY

### Jive Software

**Headquarters:** Palo Alto, Calif.

**Employees:** 430

**2011 Revenue:** \$77.3 million

**CEO:** Tony Zingale

**What They Do:** Jive makes enterprise social networking software, which lets end users collaborate using features and functionality adapted for work from social media sites like Facebook and Twitter. Jive also offers features for gamification—adding rewards to encourage user engagement—and brainstorming.

better collaborate with all those new employees and get to know them," says CTO Edwin Marcial. The company also wanted to make its stale intranet more dynamic and engaging.

Today, about 1,000 employees have profiles on Jive, and about 400 are active, daily users. "There's a lot of activity going on there," Marcial says.

Jive is used as the company intranet, where each department has a customized workspace. There are blogs, videos, wikis and documents.

"It has become for us the central repository of all our documentation and communication and collaboration. Everything that is shared in the company is put there," Marcial says.

The company has also used Jive's APIs to link it up with third-party software and systems built in-house. Plus, there's a Jive network for collaborating with external partners and customers.

Juan Carlos Perez is a senior editor at IDG News Service.



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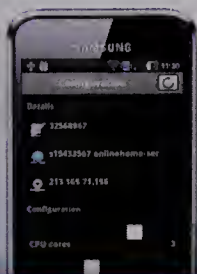


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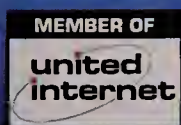
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# Tapping Social Media in Disasters

The Red Cross monitors Twitter and Facebook feeds to identify emergency zones where people need food, water and shelter **BY KENNETH CORBIN**

**T**he American Red Cross recently unveiled a digital operations center devoted to helping the relief organization sharpen its response to emergencies and connect with victims of disasters using social media tools.

The facility, housed at the Red Cross headquarters in Washington, D.C., has three terminals and several wall-mounted screens to aggregate and display the conversations about emergencies that are taking place on Twitter, blogs and many other social media sites.

By charting that activity and displaying it as heat maps and other forms of data visualization, the Red Cross hopes to glean valuable information about victims' needs that is often hard to come by in the critical early hours of a natural disaster.

"During an emergency, information is like gold," says Gail McGovern, president and CEO of the Red Cross.

## What's Needed Where

The Red Cross also envisions the curated social media data feeds as a tool to spot trends that could indicate where needs will arise in an emergency zone, and to engage with victims to connect them with food, water, shelter or other needed relief.

Dell contributed equipment and consulting services to launch the new social media center. The Red Cross facility is modeled on a similar command center that Dell set up in its Texas headquarters to monitor online conversations of interest to the company, opening a new channel

of market intelligence and real-time engagement with social media users.

Along with the new technology, the Red Cross is launching a program to train volunteers to engage with emergency victims through social media, sometimes providing vital information about where to find shelter or medical attention, and sometimes simply offering emotional support.

The Red Cross put the technology into practice during the recent tornadoes that swept through the

and also to give help, particularly in times of crisis."

On a typical day, McGovern says, social media users will post mentions of the Red Cross between 3,000 to 5,000 times a day on Twitter, Facebook, blogs and other sites. But in times of emergency, those posts grow exponentially, she says.

## Out of the Rubble

The potential for social media to aid in responding to a disaster came into sharp focus for the Red Cross in the

**In times of crisis, more and more people are relying on social media to get information, connect with loved ones, seek help and provide assistance.**

Midwest. Wendy Harman, the Red Cross's director of social strategy, says that Red Cross staffers and volunteers were using social media channels to counsel fearful residents seeking advice for riding out a tornado in their homes, and relayed other critical information from local authorities about disaster preparation and response.

The spike in social media activity during the tornadoes was hardly an anomaly. McGovern notes that every recent natural disaster or humanitarian emergency that would draw in the Red Cross has lit up the social media sites.

"In recent years, we have seen the growth of social media grow dramatically, particularly in emergencies," she says. "And more and more people are relying on it to get information, to connect with loved ones, to seek help

aftermath of the 2010 earthquake in Haiti. Social media outlets were a primary channel for people to alert the Red Cross to the location of their loved ones who were trapped in the rubble. That barrage of information, if properly harnessed, could prove invaluable to the efforts of relief workers, McGovern says.

"That's when we realized we needed to start a conversation with the emergency response organizations and figure out how that community could use social media and tap into the ways people are communicating anyway," she says. "We also saw the need to use social media to engage the public so that they could become a vital participant in disaster response and recovery."

Kenneth Corbin is a freelance writer based in Washington, D.C.



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Equifax CIO **Dave Webb** is working to exploit the company's vast stores of data to uncover new revenue opportunities, while also trying to be a good steward of that data.



# BIG DATA, BIG BROTHER, BIG BUCKS

31

Equifax is creating new analytics products from 800 billion business and consumer records worldwide. This is CIO innovation on the edge. **BY KIM S. NASH**

**A** **s one of three** credit bureaus in the United States, Equifax keeps financial data on every adult in America, plus people in 16 other countries. But the company knows much more than just what goes into an old-fashioned credit score.

It maintains information about people who share the same phone number or address, “non-obvious” relationships between individuals, loans for dental work, magazine subscriptions, rental history, real estate assets, investment wealth, retail purchasing, the type of federal tax return someone files, marital status, employment, utility payments, cable TV accounts, criminal records, debt-to-income ratios, changes of address, motor vehicle files, post office boxes, inferences about someone’s capacity to pay

bills, predictions about someone’s propensity to pay, links to past and potential fraud crimes—and more.

This pile of more than 800 billion records is sliced, diced, analyzed and indexed into 26 petabytes of data. That’s more data than the FBI’s Investigative Data Warehouse, said to be the single biggest repository at the agency, with its relatively measly 1 billion unique documents. In all, Equifax has data on 500 million consumers and 81 million businesses worldwide.

Says Equifax CIO Dave Webb: “We know more about you than you would care for us to know.”

In his wry British way, Webb alludes to the power of information and his push to derive ever more lucrative products and services from Equifax’s vast stores of it. Webb says Equifax can make money off IT innovation—that is, his staff’s ability to manipulate massive amounts of data better and faster than com-



petitors can. The company has launched scores of new IT-based products in the past few years, chasing two ideas: cutting risk and improving marketing for its 46,000 business customers. Equifax can, among other things, check an immigrant's employment status, verify a doctor's credentials, assess an Internet user's social influence and monitor a child's budding credit portfolio. Big data. Big Brother. Big bucks.

But like other companies in various industries hoping to spin in-house data into revenue, Equifax has to maneuver through tricky economic, political and cultural changes. The recession forces businesses to seek out reliable data on which to base decisions (opportunity), but they have less money to spend (problem). Congress enacted tough regulations to try to control mortgage companies (opportunity), while President Obama's new Consumer Financial Protection Bureau says it's going to monitor credit bureaus (problem). People are freer with personal data than ever before (opportunity), but they don't like it when companies get too personal (problem).

Rivals Experian and TransUnion also are remaking themselves into analytics companies. "Decision analytics is the growth engine for these companies," says Elizabeth Mason, an analyst at Outsell, a company that studies the information industry. "Yet it's a shifting landscape. We don't know yet what the public's tolerance is for companies mining all of this data really well."

## Privacy? What Privacy?

**B**usiness isn't just about building a better mousetrap. It's about finding out why people don't like mice and what they're willing to do about it. In the past, companies might have gathered consumers in a room to quiz them. Now they pay millions of dollars to collect, buy and analyze data about those consumers, to market the best mousetraps to the right customers.

And why not? People give up personal information in return for convenience. They hand over data about their Web activity for the chance to win a cruise. They let online game companies vacuum up personal tidbits from their Facebook accounts.

Equifax itself coaxes consumers to give up personal information online. A contest to win World Series tickets and \$3,000

## Engaging Chatty Consumers

Experian has a sophisticated presence on Facebook, but says it doesn't mine that data

**F**acebook, the most visited site on the Internet, houses a gold mine of information for marketers eager to know what consumers think and do. And little excavation is needed: Facebook's 845 million users will—ingly post personal tidbits during the 53 billion minutes they spend on the site in a given month.

As the three credit bureaus—Experian, TransUnion and Equifax—delve deeper into products and services that help businesses profile potential and existing customers, Facebook becomes a natural place for these companies to dwell. All three maintain pages there, but it's the one with the smallest following that's doing the most interesting things.

Experian, with a little over 6,460 fans, uses Facebook to promote its financial literacy program and to try to educate individuals, one-on-one. The company posts a mix of tips, news stories and inspirational quotes. It also posts chatty status updates that often ask questions

designed to get people to respond. "Happy President's Day! Who is your favorite president?" "The most I ever spent on a meal was \$\_\_\_\_\_." "What are you saving up for right now?"

Competitor Equifax, by contrast, mainly issues statements about financial topics and points its 122,650 fans to its corporate blog, where it promotes products and services.

Experian's goals are to engage consumers, promote financial literacy and strengthen the Experian brand, says Gerry Tschopp, senior vice president of public relations. He insists that the company isn't mining consumer activity on its Facebook page for marketing purposes. "No. That's not the forum for anything like that," Tschopp says.

"We're trying to get them to act and change their lives. To think, 'Maybe I should save. Maybe I should pay down my bills,'" adds Maxine Sweet, vice president of public education at Experian. Sweet also writes an "Ask Experian" consumer column on the company's website.

Some consumers share too much, asking for financial advice or revealing personal details on Experian's Facebook page or its website. But for Experian to dive into those conversations would violate regulations and internal ethics guidelines, Sweet says. Instead, inappropriate questions or revelations are heavily edited or not published, she says. "People get very personal with us." —K.S.N.

asked Facebook users to submit a photo and short essay on what they would do with the money.

Consumers share knowingly and unknowingly, through surveys, location-based services, searches, online resumes, photos, check boxes, check-ins, tweets and clicks. People have no time to read gobbledygook privacy policies; they simply click "I Agree."

"The majority of consumers have no clue about the breadth of the information about them, where their information is residing and who has access to it," says John Ulzheimer, president of The Ulzheimer Group, a credit reporting and identity-theft consultancy.



## VIEWPOINT

**Mathew Lodge**SENIOR DIRECTOR,  
CLOUD SERVICES, VMWARE**Kevin Jones**VICE PRESIDENT, SERVICES,  
DELL, INC.

## Dell and VMware Together Deliver Secure Enterprise-class Cloud Solutions

All companies have their eye on the cloud, seeing the technology as the wave of the future for delivering IT applications and services. Dell and VMware have teamed up to help realize the promise of the cloud. We caught up with leaders of the cloud efforts at each company—Kevin Jones, VP for Infrastructure and Cloud Computing Services at Dell, and Mathew Lodge, senior director of Cloud Services at VMware—to learn more about their cloud vision.

**In an IDG Research Services survey, respondents said efficiency via automation was a key driver of their public cloud initiatives. How do Dell and VMware help deliver on that goal?**

**KJ:** When customers invest in infrastructure, a myriad steps are involved in designing, acquiring and deploying it, all of which can take a significant amount of time. The cloud fundamentally disrupts that model and helps improve efficiency by automating many of those steps.

**ML:** You're able to get much greater control of the environment. Virtual data centers, provided by VMware vCloud Director software running on a Dell private cloud or Dell VMware vCloud Datacenter Service, enables you to delegate administration to end users. Power users can run as many virtual machines as they like, but IT can put appropriate controls in place.

**Another important driver was improving agility for reacting to market changes. How does cloud computing improve agility?**

**ML:** In the Dell/VMware combination, Dell provides both private and public clouds. Customers can move applications back and forth between them, based on business needs, without making changes. A retailer might decide to use the public cloud for a marketing campaign, for example, when it's not sure what the response is going to be. If it's a huge hit, it can get more capacity.

**KJ:** Another good example is our customer Gratifon, which invented voice-over-IP kiosks that connect consumers to any landline or cell phone at no cost. Gratifon is using our public vCloud solution to get scalable computing

power and storage. It gives the company the flexibility and reliability it needs in order to expand into new markets quickly, including same-day setup of applications in the cloud. It's the epitome of agility.

**How are Dell and VMware addressing security?**

**ML:** At the software level, VMware provides extensive security controls in vCloud Director. You can authenticate users against your existing corporate directory, so you don't have to create a user account for the cloud that's different from existing user accounts. VMware software also provides virtual firewalls that follow applications around no matter which physical server they run on. And we provide virtual networking, so you can segregate front-end systems that face the public Internet or customers from back-end systems, for example.

**KJ:** With our recent acquisition of Secure-Works, Dell is delivering a tightly integrated suite of managed security services to help customers protect the integrity of their data and critical IP assets. Dell has also partnered with TrendMicro to offer more security protection through data encryption and innovative key management services.

**How else does the Dell/VMware partnership make life easier for companies looking to implement enterprise cloud solutions?**

**ML:** Dell's making it easier for customers: They can go to Dell and get the best of both worlds with cloud computing—private cloud and public cloud from the same supplier, with common support and a common set of services.

**KJ:** And vCloud Connector gives customers adopting the private and public cloud seamless hybrid capabilities. It provides one console, with a familiar GUI, for managing private as well as public virtual machines, so customers can move workloads between public and private clouds as needed. It can also be delivered as a Web-based service, enabling management from anywhere with a Web browser. And vCloud Connector is now included in our vStart solution and as a free download for existing customers.

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"We have the technology to do this, and if it's legal, we should."

-Dave Webb, CIO, Equifax

How the norms have shifted. Until the mid-1990s, the conventional wisdom about privacy protection was, in essence, that information collected for one purpose shouldn't be used for another. The idea is rooted in a 1973 federal guideline, "Code of Fair Information Practices," which advocated consumer control and consent as core principles.

After the Web opened up, we moved away from the notion of separating and guarding individual pieces of data to protect privacy. Now the prevailing goal seems to be to collect and combine nearly as much personal information as possible in the quest for profit.

There's a growing movement against that trend, though, that CIOs should monitor. What people don't like is when companies combine personal data to reveal more than any single piece of information can, says Lee Rainie, director of the Pew Research Center's Internet and American Life Project. "They are nervous, concerned that material might hurt them," he says.

Still, he notes, people fail to lock down their data out of ignorance or neglect, or sometimes because it's simply not possible.

To protect consumers from themselves and from overreaching companies, lawmakers are getting involved. In March, the Federal Trade Commission recommended that businesses make privacy protection their "default setting." Companies are asked to issue clearer explanations about what happens to consumer data and simplify the choices people are given for how their information is used. "Implementing these best practices will enhance trust and stimulate commerce," the FTC says. Congress, meanwhile, is writing "Do Not Track" and other privacy bills.

For now, as data-based products grow more profitable, the boundaries consist of regulations, laws and the judgment of companies policing themselves.

## Monetizing Innovation

**P**ulling in \$2 billion in revenue, Equifax is the second-largest of the three credit bureaus, tucked between \$1 billion TransUnion and \$4 billion Experian. With no one dominant player, the three are in a constant, tense battle to come up with new products that reveal that much more about consumers. Each touts the breadth and uniqueness of its data. Where they overlap—and despite their rhetoric, they do overlap—speed and innovation are the advantages. "It's a fast-followers game," Webb says.

His mission: to use his operations and IT background, combined with financial industry expertise, to uncover new revenue for Equifax. Webb joined the company in 2010 from SVB Financial Group, a financial services company with \$20 billion in assets, where he was CIO and later COO. While his bachelor's degree in Russian may not help, his MBA certainly does.

"I am amazed at how few opportunities business identifies to mine data,"

Webb says. "We have a responsibility to identify opportunities."

Asked how far Equifax should go, Webb pauses. "The morality question is another whole discussion. But we have the technology to do this, and if it's legal, we should."

They are. Equifax cranked out 69 new products last year in risk management, identity verification, fraud detection, analytics and marketing. Equifax executives carefully measure innovation in revenue terms. An index called New Product Innovation (NPI) measures the revenue generated from products launched in the previous three years to see if they, combined, can bring in at least 10 percent of the company's revenue in a given year. NPI revenue last year was \$181 million, up from \$176 million in 2010 and \$134 million in 2009.

In another innovation program, the company removes 12-15 high-performers from various business units and support functions and sends them off together to brainstorm new products. They meet for three or four weeks, excused from their day jobs, to talk about how to target a need in a specific industry. Most of their ideas make it through the NPI process.

Two new products in development would help companies use analytics to avoid bad customers, says David Brooks, senior vice president of integrated data solutions at Equifax. In one, developers are building a model for banks that combines a person's credit scores with his track record for paying utility bills. The results would indicate whether it's worth the bank's time to pursue the customer for delinquent credit card payments.

The other new product, nicknamed Suspicious ID internally, is a system for watching inquiries on credit reports in real time, to catch crime in the making. The rate of inquiries, along with other factors, would be scored according to fraud risk. "When fraudsters find something that works," says Keith Manthey, the company's vice president of integrated data solutions, "they share it and use it quick."

## Breaking IT Traditions

**W**ebb has been stepping up Equifax's analytics and collaboration capabilities, buying a business intelligence tools company and a workflow software vendor last year. The company has spent \$1.7 billion in the past five years acquiring data-collection and technology companies. It's a long way from the paper ledgers the company kept through the first 50 of its 113 years in existence. If the useful life of data is two to 15



# About Equifax



- ➔ Keeps data on **500 million** people
- ➔ Keeps data on **81 million** businesses
- ➔ Stores **800 million+** records
- ➔ Does business in **17 countries**
- ➔ Has **46,000** business customers
- ➔ Launched **69** new products in 2011

## Equifax's 2011 Revenues:

**\$2 billion**

Growth of revenues since 2009: **14%**

## Equifax's 2011 Profits:

**\$233 million**

Growth of profits since 2009: **0%**

## 2011 Compensation of Equifax CEO Richard Smith:

**\$11,013,238**

Growth of CEO's compensation since 2009:

**25%**

## Public Views About Privacy

**92%**

Percentage of adults among 974 surveyed who think there should be a **law to force** websites and advertising **companies to delete all stored information about an individual.**

**50%**

Percentage of adults among 974 surveyed who **never or hardly ever read the privacy policies of websites.**

**19%**

Percentage of adults among 974 surveyed who **never check their credit reports.**

Among those age 18 to 24, that number is

**48%**

**3%**

Percentage of adults among 974 surveyed who **correctly answered all 5 questions** in a set of true/false statements **about online privacy.**

**30% got all 5 wrong.**

**35**

SOURCES: (ABOUT EQUIFAX) EQUIFAX'S 2011 ANNUAL REPORT AND PROXY STATEMENT, EQUIFAX COMPANY OFFICIALS  
(ABOUT PRIVACY) JOINT RESEARCH FROM THE UNIVERSITY OF CALIFORNIA-BERKELEY AND THE UNIVERSITY OF PENNSYLVANIA

years, as Equifax says in its latest annual report, Webb wants to make the most of that time. He has set loose his 1,000-member IT group to attack big data, and they've come back with technology innovations that create competitive advantage, he says.

The way Equifax's data is stored and retrieved, for example, bucks tradition. Historically, companies with enormous amounts of data build giant warehouses, often running on massively parallel processing systems. The hardware is expensive, and the architecture of a relational database inhibits queries of unstructured data, Brooks says.

Instead, Equifax views the work as content delivery, rather than query processing. Data is spread across a grid of low-cost servers. IT developed proprietary distributed indexing technology to find information.

"Since our data sizes, transaction inquiry volumes and response-time requirements are all very challenging, we have

to be careful about blindly following an industry-standard approach," Brooks says. "That can drive large and complex infrastructure demands that may not be necessary if you step back and think differently about the problem."

The IT group also tosses aside another worn idea. Where master data management projects seek the fabled single version of the truth, Brooks says there's no such thing. Equifax data gurus certainly spend time de-duplicating and cleansing data they integrate from public and private sources, but they've stopped fretting about finding and storing one definitive view of a consumer. Context is more important. "The reality is, they're all right. Now we think of observations more than truth," he says.

Webb encourages creativity in IT, saying the best results come from people who feel challenged. "You know who in your organization wants to learn. Let them have the reins," he says. "Set out the problem and get out of the way."



## Mining You

**O**ne common way to uncover insights is to mix and match data sets, looking for correlations. Do the credit limits on the department store charge cards of single women indicate anything about their propensity to lease cars? Such blue-sky dabbling might produce useful results for marketers. For example, Equifax's rival Experian recently discovered that adults who use social media are more likely than other Internet users to visit Starbucks. Starbucks—or its coffee competitors—may want to step up its ad buys on Facebook.

At Equifax, insights also come from an executive brain spark. Last spring, Webb's imagination was caught by a CNN story about a \$500,000 credit card fraud. According to federal investigators, two brothers conspired with an employee at a Beverly Hills dentist office to create hundreds of fake people who looked real on paper. They made up names, Social Security numbers and other personal data to generate "synthetic" individuals to whom the insider could pretend to give loans for dental work. The insider then reported the loans and false payments to Experian, to establish credit histories under names such as Garnik Dumanov and Grisha Stpanov.

For more than a year, the trio got credit cards under these and other false identities from Bank of America, Wells Fargo and 19 other banks, which approved them after seeing good credit scores. DirecTV and several cell phone providers approved accounts. Car dealerships approved loans for an Audi Q7 and a Lexus IS 250.

Webb emailed Brooks: Could we catch scams like this?

Brooks, Manthey and other colleagues looked up more

Brooks adds. "Our 360-degree view lets us not be fooled."

This kind of reverse analytics, spurred by Webb, ultimately resulted in new fraud-detection tools for Equifax's security team to use with clients.

The fraudster brothers, meanwhile, are in federal prison and the dentist's office insider is on probation.

## Beyond Financial Reporting

**T**he way Webb sees it, new regulations for the mortgage industry hand Equifax another opportunity. The Dodd-Frank Wall Street Reform and Consumer Protection Act, enacted in 2010, holds financial institutions more accountable for bad loans. Equifax quickly launched Undisclosed Debt Monitoring, an always-on service that monitors a borrower's major spending during the time between getting approved for a mortgage and the closing date. Taking out a car loan after you've been approved for a mortgage, for example, can change your risk profile, possibly putting you outside the bank's threshold for the mortgage deal.

Assessing the mortgage crisis, financial experts realized simple credit scores don't provide enough information for banks deciding whether to approve a big loan, Webb says. "We identified gaps in their knowledge."

Equifax can mold its technology into revenue-generating products to suit very different circumstances. Real-time identity verification, for example, can help a telecommunications company avoid fraud. Equifax can confirm for us that Elaine Quinn is who she says she is and pays her cell phone bills on time. We'll sell to her.

That same telco can also buy marketing services from Equifax, to build on the basic identity product. Equifax can tell us that Elaine Quinn has a high wealth score, a history of big spending in the summertime and is active on social media. Let's upsell her to our most expensive mobile phone and offer a discount on her data plan if she later gets two social-media friends to sign on with us.

Upselling is most effective in the moment when a customer is interacting with a company. Sending a pamphlet in the mail weeks later or even an email a few days later is far less effective, Webb says. Real-time identity verification and "decisioning" services let retailers, telecom companies and other organizations strike while the customer is standing there. And not with generic offers, but with ones tailored to that kind of customer.

"To the extent we can know who you are when you're doing a transaction, that's highly valuable," he says.

Equifax has extended far beyond the financial realm, and way beyond being a credit bureau. Patients and medical staff who need to prove their identities online to hospitals can use the company's authentication technology, which presents questions whose answers should be known only by the individual. "Which of the following streets did you live on: Greenlawn Ave., Baldwin Rd., Elmcrest Dr. or Mead St.?" Last year, Equifax

"We don't know yet what the public's tolerance is for companies mining all of this data really well."

—Elizabeth Mason, Analyst, Outsell

details about the crime and pulled internal data beyond just credit reports from across Equifax's wide assortment of records. Then they began testing new ways to analyze the information in an effort to produce the outcome they already knew to be true—that Stpanov, for example, couldn't be real.

Typically, someone with valid identity information will show up in other files, even if he doesn't have credit, by paying a phone bill, for example, or subscribing to a magazine. Manthey says the Equifax data showed that the synthetic individuals "obtained lines of credit, then vaporized."

"A normal person would have a footprint in many areas,"



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started helping the Department of Homeland Security and U.S. Citizenship and Immigration Services check the employment eligibility of immigrants.

## What's Next?

**T**he question now is where, or perhaps even whether, this will end. Some privacy advocates worry that U.S. companies can find out too much about private citizens in the name of corporate profits. But even if Congress passes stricter laws, the privacy debate will never disappear, says Pew's Rainie. That's in part because an individual's decision to reveal personal data "is highly contextual and conditional," he says, depending on what they receive in return for disclosure. But that, too, can change over time. "People in different stages of life sometimes have different calculations about this."

Technology is another unpredictable force. Future IT capabilities will enable unforeseen uses of data. Companies, to remain competitive, must stay ahead of these trends, says Outsell's Mason, but follow a steady internal compass.

"Executives must bring to the table a sense of ethics around information, as well as knowledge of the laws and regulations," Mason says.

"The challenge that any credit bureau faces is balancing the

"I am amazed at how few opportunities business identifies to mine data."

-Dave Webb, CIO, Equifax

potential for revenue with offering services and data that, while completely legal, seem to cross the line between what's right for the bottom line and what's clearly wrong for consumers," adds Ulzheimer, the credit consultant. He says credit bureaus have made consumer-friendly choices, so far, such as not permanently reporting negative credit events like bankruptcies.

At Equifax, CIO Webb emphasizes how solemnly the company regards its duty to follow the laws and regulations that rule how it can use information. "We have very strong governance and controls around how data gets consumed," he says. "We are trusted stewards of data and have a responsibility to protect it." **CIO**

Senior Editor Kim S. Nash can be reached at [knash@cio.com](mailto:knash@cio.com). Read her blog, Strategic CIO, at [blogs.cio.com/blog/strategic-cio](http://blogs.cio.com/blog/strategic-cio).

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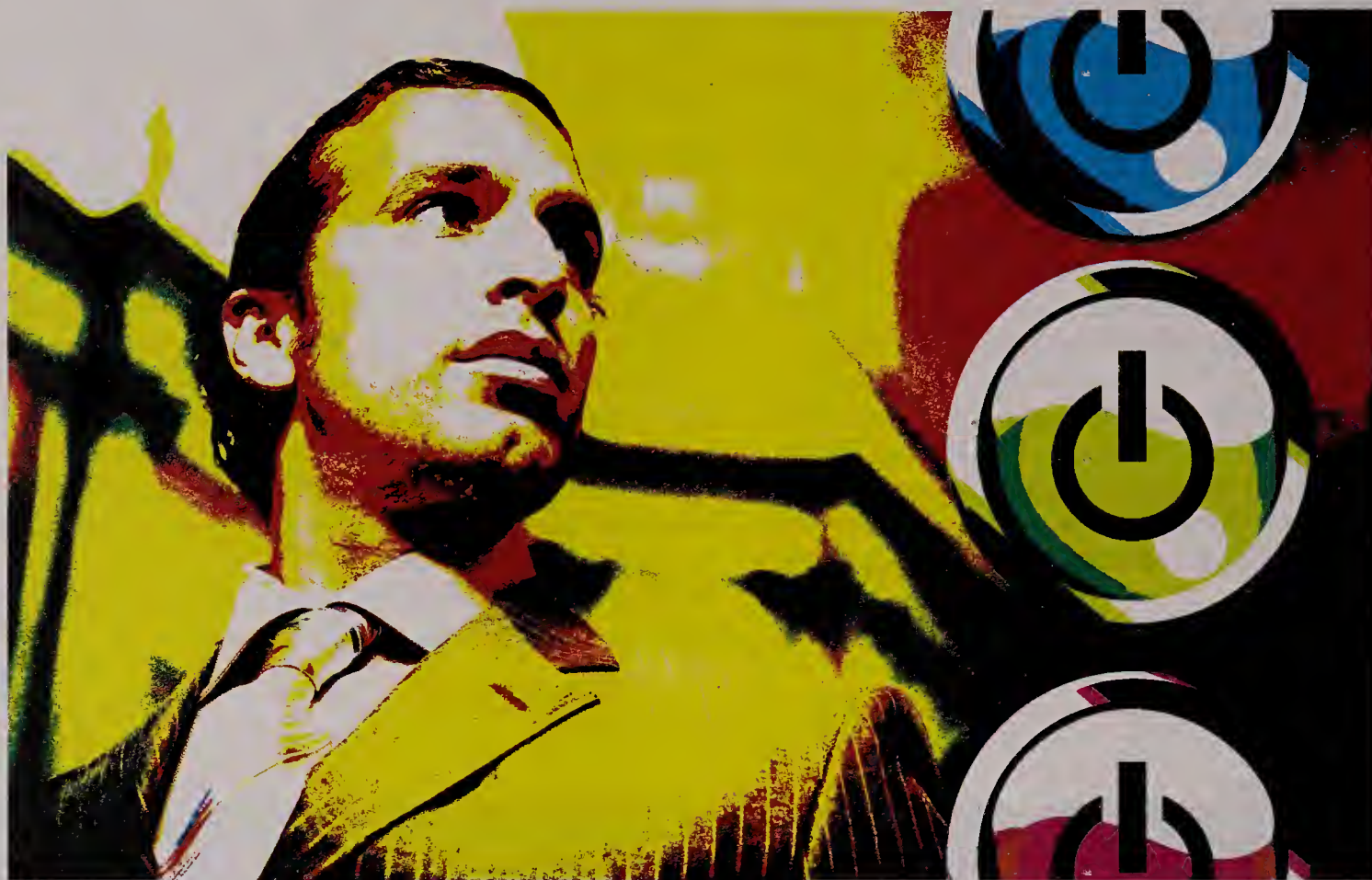


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peer advice from the **cio executive council**

# connect



40



Direct  
Energy CIO  
**Jerry Brace**  
wants to  
push vendors  
beyond  
traditional  
outsourcing  
contracts

## SOUNDING BOARD

### Reboot Vendor Mind-Sets

**SCENARIO** Thanks to what I'm calling a compelling event—a plan to move Direct Energy's headquarters, including one of two data centers, from Toronto to Houston—we have the opportunity to reexamine how we deliver IT to our business stakeholders. We knew that we must take advantage of this event to set up a different operating model than we have today, building new relationships with technology partners. The goal is for my IT staff to manage our tools to create business value while our partners, who are necessarily more technically knowledgeable, provide the ideas and execution for infrastructure, network services, cloud and more. We're already in discussions, and I'm telling them up front that we aren't looking to sign the same old outsourcing contracts.

We are on an 18-month plan for this headquarters move, which means that these partnerships must be in place in the next 12 months. One of the biggest challenges that we're facing is changing the culture at the providers, who seem to still have an outsourcer mentality. I'm seeing it in the responses, which are very disjointed, indicating that their infrastructure teams are separated from their cloud teams and so on. How can we encourage vendors to step out of this box? ▶▶▶

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## VIEWPOINT



### Steve Weiskircher

CIO, FANATICS INC.

Steve leverages technology to achieve tactical and strategic business goals. He partners with business units to design and develop robust, scalable and secure solutions. Steve has a strong focus on e-commerce, contact center, and warehouse operations and has experience in business development, retail, merchandising, and direct marketing.

#### FOR MORE INFORMATION:

Visit [www.microsoft.com/dynamics](http://www.microsoft.com/dynamics), [www.fanatics.com](http://www.fanatics.com) and [www.junctionsolutions.com](http://www.junctionsolutions.com).



Custom Solutions Group

## Fanatics: Taking Growth in Stride

Fanatics, a sports merchandise company headquartered in Jacksonville, Fla. offers the largest selection of officially licensed team and league products found anywhere on the Web. CIO Steve Weiskircher shares how Microsoft Dynamics AX supports the company's organic and acquisition-based growth.

### As CIO of Fanatics, you've had your hands full with not only internal growth, but acquisitions as well.

I've been with Fanatics for just over four years. A few years ago, the company had two retail stores and a 130,000-square-foot operations facility. Today we have a 550,000-square-foot fulfillment and support-staff facility, an internal call center in Florida, a customization and shipping facility in Kentucky, and offices in Pennsylvania. We've grown quickly in a very short period of time.

### What sparked such growth?

Simply put, by keeping a fanatical focus on exceeding our customers' expectations. Last year, we were purchased by and subsequently divested from GSI Commerce along with their licensed sports division. Recently, we announced our intent to purchase Dreams Inc., a multi-channel licensed sports merchandising company.

### How has this trajectory challenged the overall organization?

Our policy in the technology team is "do no evil." We don't want to disrupt business operations while we are adding complexity at such a rapid rate. The integration and incorporation of new businesses is secondary to satisfying our existing customer base. The same is true for the businesses we merge with and acquire. We bring these companies together because we've seen something of value: brand, customer base, loyalty. We don't want to sacrifice these qualities.

### How has Microsoft Dynamics AX allowed your business to remain agile with so much change?

Our environment, which also supports a few hundred partners, is Microsoft-centric from the .Net-based e-commerce platform to our core procurement and financial software: Microsoft Dynamics AX. Leveraging Microsoft's integrated solutions enables us to connect people, processes, and systems across all aspects of our company. The flexibility within Microsoft Dynamics AX is where we see the most benefit. We can tailor it to meet our business process needs. It features enterprise-level capabilities such as multi-company, multi-warehouse, multi-currency and localized support.

### How will your move to the latest version, Microsoft Dynamics AX 2012, impact business?

More capabilities are now available out-of-the-box. This has reduced the need for custom code in certain business functions. Also, because it leverages technologies like SQL Server Reporting Services, we can better utilize our IT talent in the organization. I'm confident the foundation we are laying with Microsoft Dynamics AX 2012 will provide the capabilities required to meet our future needs.

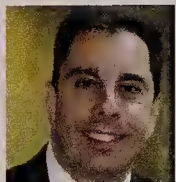
### What advice do you have for others thinking about using Microsoft Dynamics?

Having a flexible product like Microsoft Dynamics and a great technology partner are important. That's why we chose Microsoft and Junction Solutions. We have a corporate culture as "self maintainers." The Microsoft Dynamics AX platform allows us to do this while benefitting from the out of the box enterprise features. We will continue to support the application internally, however the strong partner community provides us with the comfort that we do not have to do it all alone. ■



►►► **Mind-set** Continued from Page 40

## **LARRY BONFANTE, CIO, UNITED STATES TENNIS ASSOCIATION BE HONEST ABOUT EXPECTATIONS AND DYNAMICS**



**ADVICE** When it's clear that there are many groups on the vendor side, I'd start with strongly requesting an overarching relationship manager. Get one for each company you're talking to, and then invite them in for a day where you can talk to them about your company, the corporate mission and vision, and how IT fits into accomplishing those goals. I've often told vendors, "Forget about service delivery; what would you do to address these business priorities?"

That will make sure that everyone is at least aware of your expectations. But then I've found there have to be a lot of candid conversations. Be honest about your selection criteria and make it clear which variables weigh more with you. It can be hard to get vendors past thinking that lowest cost is the most important issue, but you need to help them understand that you're talking about innovation and other business needs.

It also helps to talk candidly about the cultural environment within your company, and more specifically, within your IT group. I've helped more than one vendor understand how my team is set up and how I want their team to fit into that organization. I can see in those meetings with vendors' relationship managers that these details make a difference. The change doesn't come overnight, and there will be some who will never meet your needs, but clearly defining what your company expects gives everyone a chance to try to be what you need.

## **RAJ DATT, SENIOR VP OF GLOBAL OPERATIONS & CIO, ARICENT ESTABLISH CLEAR ROLES AND PREPARE TO COMPROMISE**



**ADVICE** Trust is key to building a partnership beyond a simple vendor relationship. Identify a single person working for your partners who will act as your advocate. For this, it is best to have some methodology in place. I'm a big fan of Six Sigma, because it requires that you have clear, defined objectives and a means to measure progress. It is imperative that the framework also include roles and responsibilities stating who is accountable and who needs to be consulted or informed. Properly documenting objectives and expectations has been proven to produce higher-quality results time and again.

Open communication is essential to minimizing problems. Creating a mutually beneficial situation is also vital to the success of your partnership and will require that both parties have a vested interest in a successful outcome. Once you have come to a point where you and the vendor understand each other, being able to compromise will keep both the vendor and your team agile and able to craft solutions to any problems that might arise.

If you determine that a partner is not capable of delivering what they promised in your agreement, you will need to act swiftly. It's a hard call every time, but you have to make the assessment of whether a particular company is worth the time, and be willing to walk away if your goals cannot be met. It is important to have a contingency plan no matter how confident you are in the partner. This will mitigate any problems should you need to end the relationship.

# TAKE Note

## **Gain Value from Internships**

**CALL IN** Internship programs can add significant value to your IT organization and company, beyond the good they do for the individual—ideally, they will create a pipeline feeding you your company's future leaders. In this June 21 webcast produced by the CIO Executive Council's Youth in IT Community of Practice, leaders from Federated Investors and Dow Jones will provide an overview of their IT internship programs, share specifics about how the programs work, and explain the metrics used to gauge program and participant success. [council.cio.com/WEB612](http://council.cio.com/WEB612)

## **Capture Social Opportunities**

**DOWNLOAD** In this installment of the IDG Enterprise CIO Interview Series, John Gallant, chief content officer for CIO's parent company IDG Enterprise, asked Council member John Dick, former CIO of Western Union, about his role as a change agent and how IT is helping the company capture the opportunities that mobility and social networking offer, particularly in the developing world. In the past decade, the company has added a dizzying array of products and services that capitalize not only on Western Union's global reach but also on its powerful brand, its expertise in local markets and its web of business partners. Dick also discusses how he reorganized to keep IT at the center of Western Union's evolution and talks about the evolving role of the CIO in business transformation. [council.cio.com/DL612](http://council.cio.com/DL612)

## **Finding Tech Talent**

**DOWNLOAD** In this webcast recording, IT leaders from BP and other companies discuss how they are approaching the current technology talent crisis. Thanks to cloud, mobility and consumerization, companies are in greater need of tech talent than ever before. But these new skills are in even shorter supply than during the '90s talent war, despite the number of people looking for work after the layoffs brought about by the recent recession. [council.cio.com/REC612](http://council.cio.com/REC612)





# Tomorrow's Leadership Skills

IT management is changing. Here are some kinds of experience that companies will be looking for in their CIOs. **BY MARTHA HELLER**

**I**n 2015, what skills will appear on job descriptions for Fortune 500 CIOs? I asked Peter High, author of *World Class IT: Why Businesses Succeed When IT Triumphs*, for a list of requirements.

First there are the table stakes. These start, High says, with an undergraduate degree in engineering or computer science. While there are a growing number of CIOs with liberal arts backgrounds, they're still in the minority, he points out. And while a CIO doesn't have to have spent all of their career in IT, they do need some experience managing the IT function—recently, given how dynamic technology is.

Other table stakes include:

- **Vendor management experience**, with at least some knowledge of how to develop outsourcing contracts that can be undone.

- **A solid understanding of governance**, for handling increasingly complex teams with internal and external resources. "CIOs need a solid background in the use of development lifecycles, [project management offices], and other key governance practices," High says.

- **Financial expertise**, from understanding the ROI on technology investments to knowing how amortization schedules change with cloud computing.

- **Team leadership skills**, including the humility to surround yourself with people smarter than you are and the foresight to groom your successors.

Next come the skills that raise the bar. The highlights of these start with an MBA, which isn't necessary, but does have its advantages. "It is important for CIOs to strike a balance between technology skills and the exposure to the discipline that an MBA brings," High says.

Other traits that High believes will provide a leg up:

- **Experience with corporate ups and downs**, and with acquisitions and divestitures. Not everyone has to have gone through Chapter 11 or integrated a multi-billion dollar enterprise, but going through similar situations pro-

vides "a fuller arsenal of experience."

- **Exposure to external customers**, which has been common in technology companies, but is becoming important now in a wider array of industries, High says.

- **Proven ability to innovate**, because "CIOs operate as the central nervous system of the corporation and often have the vantage point to see opportunities for innovation before other executives, whether that innovation is IT driven or not."

- **Consulting experience**, which High notes, "suggests that candidates are familiar with a variety of environments and have a solid set of tools they can draw from to answer tough questions."

And the following skills make a CIO candidate a no-brainer to hire:

- **Experience running a P&L**. This will likely still be rare for CIOs in 2015, High says, but "it is great experience for learning all the levers of an organization. This tends to be the biggest differentiator for CIOs who make the leap to become

CEOs." Past leadership of non-IT functions is also a plus, as that often makes it easier to build partnerships with business peers.

- **Industry and geographic diversity**. There's no substitute for the deeper understanding gained by not just connecting to other industries or cultures, but actually spending time in them.

- **Talent-supply-chain management**, which High boils down to "CIOs who partner with universities and market IT to K-12 environments are doing more than filling their own ranks; they are ensuring innovation and progress on a macro level."

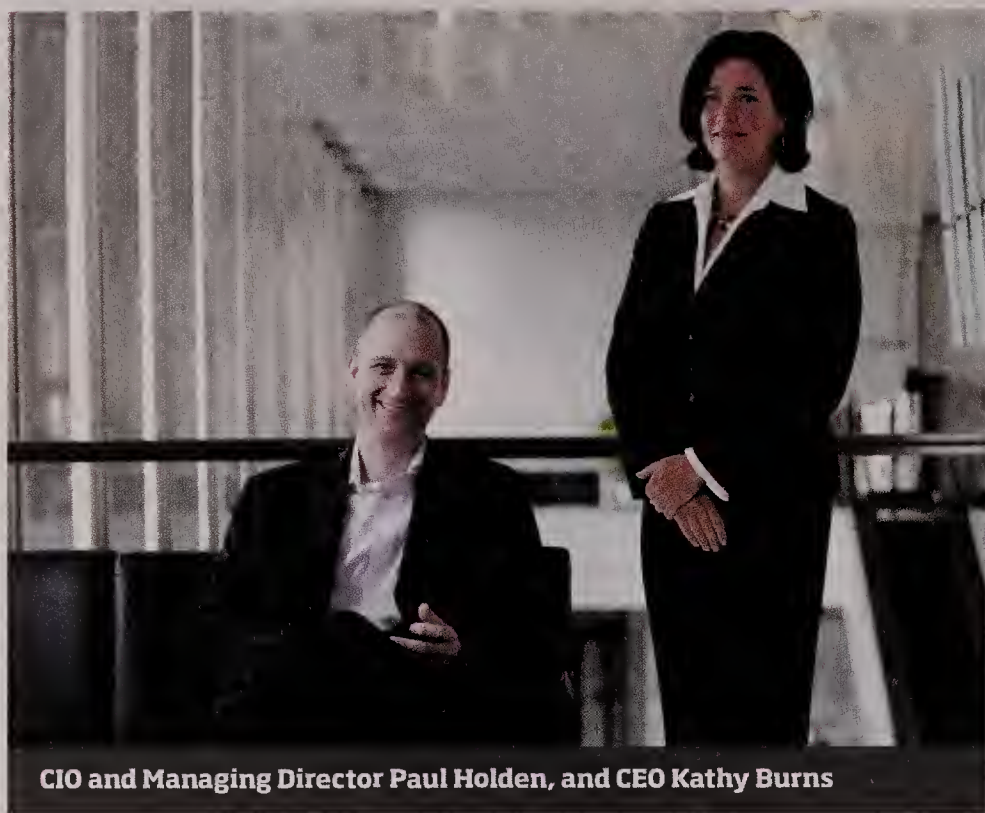
There you have it. If you possess these skills (and you may as well walk on water while you're at it), apply today.

Martha Heller is president of executive recruiting firm Heller Search Associates and author of the upcoming book *The CIO Paradox*. Follow her on Twitter: [twitter.com/marthaheller](https://twitter.com/marthaheller).

**"CIOs...have the vantage point to see opportunities for innovation before other executives."**

—Peter High, author of *World Class IT*





CIO and Managing Director Paul Holden, and CEO Kathy Burns

## AON eSOLUTIONS

# Innovation Center

A subsidiary looks at how to use its commercial solutions to create companywide internal value

**Kathy Burns** We have two sets of customers—external risk and insurance clients, and all the Aon agents. Our initial goal was to create technology solely for those external clients, but with Paul in place, it's been a natural evolution to take our unique technology product development focus and bring our tools to our internal users so they can also create value.

One such tool is our Total Cost of Risk assessment, which lets our clients track and manage all their risk, insurance policies and related fees. That same tool is also valuable to many people within Aon.

**Paul Holden** My role in the organization is to figure out how we achieve efficiencies and scale across the orga-

nization with the technologies and products that we're developing. That gives me a broader perspective than a traditional CIO that's managing just internal IT. We're kind of like Aon's own little research organization, as we look at how to apply the large amount of data we get in developing a commercial product to solve Aon's problems internally. Our hosted com-

munity solution, RIScloud, is now distributed across the globe to 200,000 internal and external users.

**Burns** In my first year and a half here, we were getting our heads around the potential for this business and the technology we had. Paul came in as a leader who could bring day-to-day experience in delivering large-scale enterprise solutions. But he is also somebody who brought the skill set to balance our external focus with the rest of Aon.

**Holden** With other organizations, my focus was mostly on cost management. The biggest change for me now is having a revenue stream associated with technology. It enables me to think more innovatively. Dealing with our external customers directly, not just our internal finance or HR departments, broadened my perspective on how we can use technology to really drive business value.

**Burns** No one at Aon is expecting us to replace the internal IT function; they're looking for us to bring new ideas. Aon and our customers are managing highly sensitive and regulated data, and we've got the experience with the security and protocols and verification needed to manage that. CEOs should be thinking about how to position IT for this kind of monetization, and to make it happen, CIOs have to be sitting at the table helping define the planning strategies of the company.

**Holden** I'm looking at the next three, four years along with the company, and determining how to evolve our products and solutions for the entire risk and insurance industry.

As told to CIO Executive Council Editorial Manager Diane Frank.



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# finish



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## Heart On Your Sleeve

**You know you're sweaty** after a workout, but do you know much else? Now a sensor-equipped athletic shirt, developed by seniors at Northeastern University, can record data about your exercise habits. The project was meant to teach engineering and graphic design students about working with other disciplines, and was led by Mark Sivak, a visiting instructor in the College of Arts, Media and Design, and Constantinos Mavroidis, a professor of engineering, with some help provided by the Bouvé College of Health Sciences. Called Squid because its sensors look like tentacles, the shirt wirelessly transmits information from your muscles to an Android app and accompanying website. The sensors capture details like heart rate and number of reps, and can provide instant feedback by vibrating when an exercise is done wrong. Sivak says Squid is unique in its ability to quantify the progress you make. "We're trying to focus on a singular workout and add data [that provides] a larger context over time." The school is now considering commercializing the product. "There's a lot of interest," says Mavroidis.

—Lauren Brousell

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